

ABSTRACT

A fixed blade air mixing apparatus includes a plurality of radially extending vanes which extend away from a common center and terminate at their outer ends within a polygonal shaped enclosure. The plurality of vanes may include an inner section which is curved or pitched in one direction, and an outer section which is curved or pitched in a second direction away from the inner section, the inner and outer sections sharing a common leading edge. In another embodiment, the vanes extend straight without a curvature. The apparatus is intended for use in eliminating stratification of airstreams of different temperatures flowing through a common passage, for example, in heating, air conditioning, or other ventilating ducts. The vanes are designed to establish downstream turbulence of the airstreams passing therethrough which produces optimum mixing effectiveness and a uniform velocity profile of the air downstream of the mixing apparatus with a minimum pressure drop as the air flows through the apparatus.

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